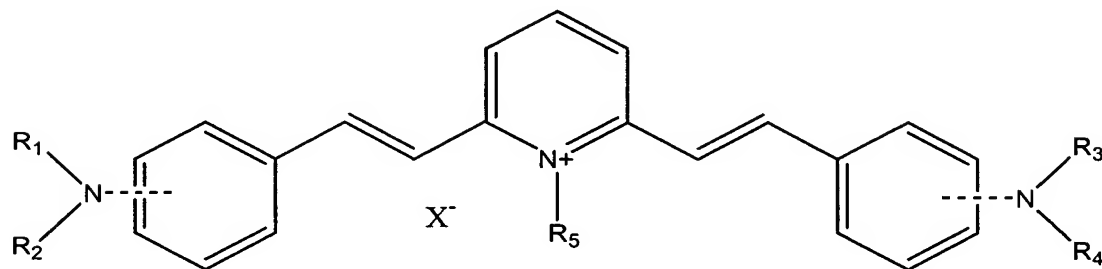


CLAIMS

What is claimed is:

1. A method of controlling fungi and/or bacteria comprising administering a composition comprising:

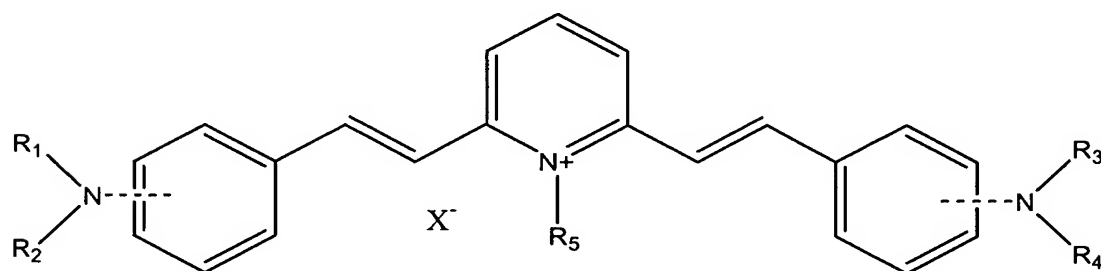


or a solvate thereof and

- wherein the NR₁R₂ and NR₃R₄ moieties are in the ortho, meta or para positions;
- wherein X⁻ is an anionic salt;
- wherein R₁, R₂, R₃, or R₄ are independently selected from the group consisting of methyl, ethyl, C₁₋₁₀ alkyl (linear or branched), alkenes (linear or branched), or wherein R₁ and R₂ or R₃ and R₄ taken together with the nitrogen atom to which they are attached form pyrrolidino or piperidino rings; and
- wherein R₅ is selected from the group consisting of methyl, ethyl, C₁₋₁₀ alkyl (linear or branched), alkenes (linear or branched), alkynes, n-propyl, i-propyl, n-butyl, i-butyl, substituted and unsubstituted aryl moieties and substituted and unsubstituted benzyl moieties.

2. The method according to claim 1, wherein said method of controlling fungi and/or bacteria further comprises binding and containing the fungi and/or bacteria in the same area.
3. The method according to claim 1, wherein said composition is administered before fungal growth occurs.
4. The method according to claim 1, wherein R₅ is (CH₂)_n-MR₆, wherein n is a number from 1 to 6, M is an organometallic compound selected from the group consisting of tin, silicon, and germanium, and wherein R₆ is a selected from the group consisting of propyl, butyl, and alkyl, substituted or unsubstituted.

5. The method according to claim 1, wherein said composition is administered after fungal growth occurs.
6. The method according to claim 1, wherein said method further comprises administering organotin, organosilicon, or organogermanium.
7. The method according to claim 1, wherein R_5 is an ultraviolet blocker, ultraviolet absorber or surfactant.
8. A method for treating agricultural fungal and/or bacterial infections comprising administering an effective amount a composition comprising:



or a solvate thereof and

wherein the NR_1R_2 and NR_3R_4 moieties are in the ortho, meta or para position;

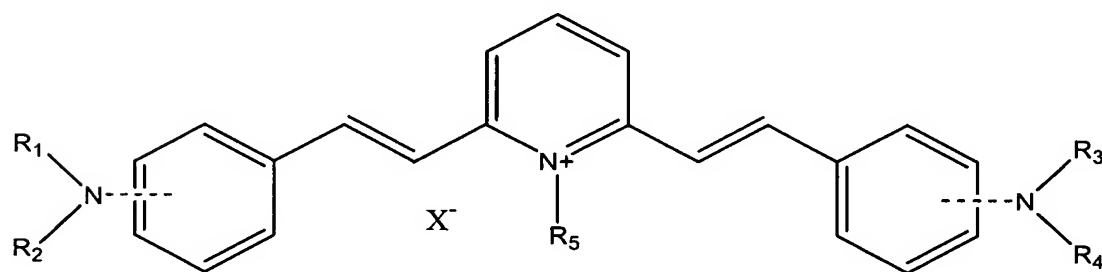
wherein X^- is an anionic salt;

wherein R_1 , R_2 , R_3 , or R_4 are independently selected from the group consisting of methyl, ethyl, C_{1-10} alkyl (linear or branched), alkenes (linear or branched), or wherein R_1 and R_2 or R_3 and R_4 taken together with the nitrogen atom to which they are attached form pyrrolidino or piperidino rings; and

wherein R_5 is selected from the group consisting of methyl, ethyl, C_{1-10} alkyl (linear or branched), alkenes (linear or branched), alkynes, n-propyl, i-propyl, n-butyl, i-butyl, substituted and unsubstituted aryl moieties and substituted and unsubstituted benzyl moieties.

9. The method according to claim 8, further comprising administering a fungicide and/or bacteriocide.
10. The method according to claim 8, further comprising administering an insecticide.

11. The method according to claim 8, wherein said composition is administered before fungal growth occurs.
12. The method according to claim 8, wherein said composition is administered after fungal growth occurs.
13. The method according to claim 8, further comprising administering organotin, organosilicon, or organogermanium.
14. The method according to claim 8, wherein said method of controlling fungi and/or bacteria further comprises binding and containing the fungi and/or bacteria in the same area.
15. The method according to claim 8, wherein said treating step is performed on a seed.
16. The method according to claim 8, wherein said treating step is performed on a plant.
17. The method according to claim 8, wherein said treating step is performed on a field used for growing crops.
18. A method of protecting a plant from fungal infection comprising contacting a plant during a stage of the growth of said plant with a compound comprising:



or a solvate thereof and

wherein the NR₁R₂ and NR₃R₄ moieties are in the ortho, meta or para position;

wherein X⁻ is an anionic salt;

wherein R₁, R₂, R₃, or R₄ are independently selected from the group consisting of methyl, ethyl, C₁₋₁₀ alkyl (linear or branched), alkenes (linear or branched), or wherein R₁ and

R₂ or R₃ and R₄ taken together with the nitrogen atom to which they are attached form pyrrolidino or piperidino rings; and

wherein R₅ is selected from the group consisting of methyl, ethyl, C₁₋₁₀ alkyl (linear or branched), alkenes (linear or branched), alkynes, n-propyl, i-propyl, n-butyl, i-butyl, substituted and unsubstituted aryl moieties and substituted and unsubstituted benzyl moieties.

19. The method according to claim 18, further comprising administering a fungicide and/or bactericide.

20. The method according to claim 18, further comprising administering an insecticide.

21. The method according to claim 18, wherein a seed of said plant is immersed into a composition comprising said strain before said seed is planted in a growth medium for said plant and said plant is grown.

22. The method according to claim 18, wherein said plant comprises plant seedlings or seeds and said plant is planted in a growth medium containing said strain.